

### **REMARKS**

No claims are amended, no claims are canceled, and no claims are added; as a result, claims 1-29 are now pending in this application.

#### **§102 Rejection of the Claims**

Claims 1-29 were rejected under 35 U.S.C. § 102(e) as being anticipated by Hiramatsu (U.S. Pat No. 6,600,935 B1). Applicant does not admit that the Hiramatsu patent is prior art to the present patent application and reserves the right to swear behind the Hiramatsu patent at a later date. At this time, Applicant chooses to distinguish the Hiramatsu patent. Applicant respectfully traverses the rejection of claims 1-29.

#### **The Elements Recited in Claims 1-29 are not All Found in the Single Reference to Hiramatsu.**

Applicant respectfully submits that this rejection under 35 U.S.C. § 102(e) is not proper since all the elements of claims 1-29 are not found in the single reference to Hiramatsu.

For example, claim 1 recites, "determining individual channel responses for said first and second antenna elements for each of a plurality of base stations of interest at the baseband communication signal; and determining a weight for said first antenna element that optimizes an interference-related quality criterion based on said individual channel responses using phased array principles to direct a receive beam." [Emphasis Added]. Thus, claim 1 includes determining individual channel responses of a plurality of base stations, and optimizing an interference-related quality criterion based on the channel responses.

In contrast, the Hiramatsu patent concerns a transmitter, not a receiver. The Hiramatsu patent at column 1, lines 7-9 states, "The present invention relates to a radio transmission device which has function for performing directional transmission and to a transmission directivity adjusting method." However, the Hiramatsu patent fails to disclose determining individual channel responses of a plurality of base stations, and fails to disclose optimizing any criterion based on the individual channel responses, as recited in claim 1. The Hiramatsu patent merely discloses at column 4, lines 50-56, "An antenna 201 of a radio reception device shown in FIG. 3 receives the transmission signal. The reception RF circuit 202 performs both of the frequency

conversion and the amplification of reception signal after signal reception, before the modulation circuit 203 modulates the reception signal, then the signal becomes a reception data while being modulated." Applicant's representatives fail to find any description in the Hiramatsu patent of determining individual channels responses related to a plurality of base stations, or a calculation of any kind of a criterion based on individual channel responses for each of a plurality of base stations as recited in claim 1. Thus, the Hiramatsu patent fails to disclosure all of the elements of claim 1, and so the rejection of claim 1 under 35 U.S.C. § 102(e) cannot stand.

In another example, claim 10 recites, "estimating a combined channel response for said first and second antenna elements at the baseband signal while said predetermined weight is being applied for a first base station of interest; calculating individual channel responses for channels between said first and second antenna elements and said first base station of interest using said estimated combined channel response; and determining a new weight for said first antenna element that enhances an interference-related quality criterion using said individual channel responses to allow beam steering." [Emphasis Added].

In a further example, claim 15 recites, "calculating individual channel responses for channels between each of said first and second antenna elements and said first base station of interest for said present time period using said combined channel response; determining a new weight for said first antenna element for said present time period that enhances an interference-related quality criterion using said individual channel responses." [Emphasis Added].

In another example, claim 23 recites, "a first unit to determine individual channel responses for said first and second antenna elements for each of a plurality of base stations of interest; and a second unit to determine a weight for said first antenna element that optimizes an interference-related quality criterion using the individual channel responses." [Emphasis Added].

Further, claims 2-9 depend from claim 1, claims 11-14 depend from claim 10, claims 16-22 depend from claim 15, and claims 24-29 depend from claim 23. For reasons analogous to those stated above with regards to claim 1 and the additional elements in the claims, Applicant respectfully submits that the Hiramatsu patent fails to disclose all of the elements in claims 2-29, and so the 35 U.S.C. § 102(e) rejection of claims 2-29 cannot stand.

For at least the reasons stated above, Applicant respectfully requests withdrawal of the rejections and reconsideration and allowance of claims 1-29.

*Use of Inherency in Rejecting Claims as Anticipated Fails as Unsupported.*

Claims 5-9, 12-14, 17-22, and 26-29 were rejected under 35 U.S.C. § 102(e) as being anticipated by the Hiramatsu patent, even though the Examiner admitted that the Hiramatsu patent does not contain all the elements of claims 5-9, 12-14, 17-22, and 26-29. The missing elements were described as be inherent to the Hiramatsu patent. Applicant respectfully disagrees because the Office Action has not established a *prima facie* case of inherency for claims 5-9, 12-14, 17-22, and 26-29 because, as recited in MPEP § 2112, “In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art,” citing *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) [Emphasis in Original]. Applicant respectfully submits that there is no reasonably supporting reasoning in these inherency rejections.

The Office Action on pages 4-6 states that the Hiramatsu patent “inherently teaches” weight is a complex weight having a magnitude-related component and a phase-related component (claim 5), interference-related quality criterion includes a signal to interference and noise ratio (SINR) (claims 6, 14, 21), interference-related quality criterion which includes a bit error rate (BER) (claim 7), interference-related quality criterion includes a mean square error (MSE) (claim 8), determining a weight including switching is the same as claimed (selecting) (see col. 6, lines 41-42 and col.9, lines 58-60) a weight from a predefined set of possible weights (claim 9), estimating a combined channel response including identifying and using a pilot signal received from the first base station of interest (claim 12), applying a predetermined weight includes forcing a magnitude associated with said first antenna element to zero (claim 13), calculating individual channel responses including using antenna weight information from a previous time period (claims 17, 18) and calculating individual channel responses including solving M equations in M unknowns, where M is an integer greater than 1 (claim 19), repeatedly applying a predetermined weight, estimating a combined channel response, calculating individual channel responses, determining a new weight, and applying new weight for a subsequent time period (claim 22), said controller updates said weight of said first antenna element at intervals that depend upon a Doppler rate associated with the communication device

(claim 26), interference-related quality criterion includes a signal to interference and noise ratio (SINR) (claim 27), that the first unit regularly applies a predetermined weight to the first antenna element for use in determining the individual channel responses (claim 28), and that the first unit determines the individual channel responses for the first and second antenna elements using a combined channel response for the first and second antenna elements for each base station of interest (claim 29).

None of these claim limitations can be found in the Hiramatsu patent and the Examiner has pointed to no places, with the exception of claim 9, within the Hiramatsu patent for support for “these inherencies.”

*Extreme Use of Inherency is Facially Improper and Unfair to Applicant*

Applicant objects to the extreme scope and use of an inherency in these rejections. Applicant is left to defend the claims against information not found in the record of this application. For example, the Office Action argued that Hiramatsu patent “inherently teaches” the limitations of claim 20 of calculating individual channel responses including solving the following system of equations for  $C_1(t=nT)$ :

$$\begin{cases} h_1(t) = \tilde{W}C_1(t) & t \in [nT, nT + \tau] \\ h_1(t) = W_{(n-1)T}C_1(t) & t \in [(n-1)T + \tau, nT] \end{cases}$$

where  $h_1(t)$  is the estimated combined channel response for the first base station of interest at time  $t$ ,  $W_{(n-1)T}$  is the calculated vector gain of the antenna elements during previous period  $[(n-1)T + \tau, nT]$ ,  $C_1(t)$  is the matrix channel response of the first base station of interest for each of the antenna elements at time  $t$ , and  $\tilde{W}$  is the vector gain of the antennas using the predetermined weight. This detailed claim limitation regarding channel estimations in the baseband signals can not be found or even hinted at in the Hiramatsu patent and the Office Action has pointed to no places within the Hiramatsu patent for support for these “inherencies.”

From the foregoing, Applicant respectfully submits that the Office Action does not provide a basis in fact and/or technical reasoning. Applicant respectfully submits that the alleged inherent claim limitations described above do not necessarily flow from the Hiramatsu patent.

Law on the Use of Inherency

To serve as anticipation when a reference is silent about the asserted inherent characteristic, the gap in the reference may be filled with recourse to extrinsic evidence. But, such evidence must make clear that “the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” *Continental Can Co. v. Monsanto Co.*, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). Applicant respectfully submits that the Examiner has not produced any extrinsic evidence to show that the missing claim elements are necessarily present in the Hiramatsu patent.

Since these “inherent” elements are not explicitly found in the Hiramatsu patent, it is respectfully submitted that the Examiner is taking Official Notice of the missing claim limitations listed above as being inherent. Applicant respectfully objects to the taking of Official Notice in the Office Action and pursuant to M.P.E.P. § 2144.03, Applicant respectfully traverses the assertion of Official Notice and requests that the Examiner cite references in support of this position. Absent a supporting reference, it appears that the Examiner may be using personal knowledge to provide the missing elements of these claims, so the Examiner is respectfully requested to submit an affidavit as required by 37 C.F.R. § 1.104(d)(2). If the Examiner can not supply references in support of this position or can not supply the required affidavit, Applicant respectfully requests withdrawal of the rejection and allowance of all claims.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 373-6904) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


Respectfully submitted,

NIR BINSHTOK ET AL.

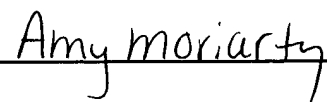
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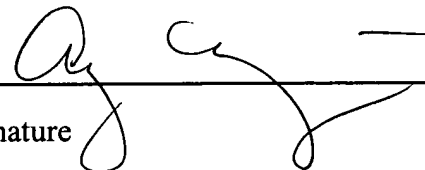
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**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 6th day of September, 2005.

  
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